STUDY PROJECT

A STRATEGIC MOBILITY IMPERATIVE: LOTS TO DO

BY

LIEUTENANT COLONEL PETER H. VARIS

15 MARCH 1990

U.S. ARMY WAR COLLEGE, CARLISLE BARRACKS, PA 17013-5050

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE	READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO. / RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) The Strategic Mobility Imperative: LOTS to Do	TYPE OF REPORT & PERIOD COVERED Final Report
	5. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Lieutenant Colonel Peter H. Varis	8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS U.S. Army War College Carlisle Barracks, PA 17013	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS Military Studies Project
11. CONTROLLING OFFICE NAME AND ADDRESS U.S. Army War College Carlisle Barracks, PA 17013	12. REPORT DATE 15 March 1990
	13. NUMBER OF PAGES 32
14. MONITORING AGENCY NAME & ADDRESS(if different from Controlling Office)	15. SECURITY CLASS (of this report) UNCLASSIFIED
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution is unlimited.

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)

18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Strategic Lift, Logistics-Over-The-Shore, Containerization, Austere Beach Environment, Elevated Causeway (ELCAS), Lightweight Amphibious Container Handlers (LACH), Lighterage, Short Tons, Fast Sealift Ships (FSS), Delong Piers, Sea-State Conditions

20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

The United States Department of Defense (DOD) has been working diligently to resolve the challenges of containerization as they impact on the deployment and sustainment of forces across austere beach environments in overseas theaters of operation. After conducting two major Joint Logistics-Over-The-Shore Tests (JLOTS I and II) and numerous exercises, the services are still wrestling with the problems that sea state conditions and beach gradients negatively impose on a LOTS operation. This study seeks to determine what is the services' present LOTS capability in supporting low and mid-level intensity conflicts when fixed

DD FORM 1 JAN 73 1473 EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

20. Abstract (continued)

ports are denied, damaged, or otherwise unavailable. By analyzing the requirements, identifying the shortfalls, recommending solutions, and developing a logistics force package based on a nucleus fleet of specially designed multi-purpose fast sealift vessels, coupled with air cushioned vehicles, the services can provide the theater CINC with an assured deployment and sustainment capability to areas of his choosing, instead of to less defensible locations dictated by major seaports.

UNCLASSIFIED

USAWC MILITARY STUDIES PROGRAM PAPER

A STRATEGIC MOBILITY IMPERATIVE:

LCTS TO DO

An Individual Study Project
Intended for Publication

by

Lieutenant Colonel Peter H. Varis, TC

Colonel David E. Shaver, EN
Project Adviser

U.S. Army War College
Carlisle Barracks, Pennsylvania 17013
15 March 1990

UNCLASSIFIED

ABSTRACT

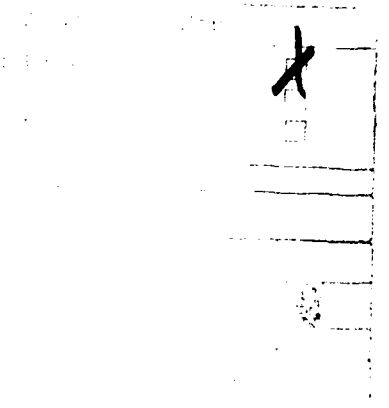
AUTHOR: Peter H. Varis, LTC, TC

TITLE: A Strategic Mobility Imperative: LOTS To Do

FORMAT: Individual Study Project Intended for Publication

DATE: 15 March 1990 PAGES: 24 CLASSIFICATION: Unclassified

The United States Department of Defense (DOD) has been working diligently to resolve the challenges of containerization as they impact on the deployment and sustainment of forces across austere beach environments in overseas theaters of operation. After conducting two major Joint Logistics-Over-The-Shore Tests (JLOTS I and II) and numerous exercises, the services are still wrestling with the problems that sea state conditions and beach gradients negatively impose on a LOTS operation. This study seeks to determine what is the services' present LOTS capability in supporting low and mid-level intensity conflicts when fixed ports are denied, damaged, or otherwise unavailable. By analyzing the requirements, identifying the shortfalls, recommending solutions, and developing a logistics force package based on a nucleus fleet of specially designed multi-purpose fast sealift vessels, coupled with air cushioned vehicles, the services can provide the theater CINC with an assured deployment and sustainment capability to areas of his choosing, instead of to less defensible locations dictated by major seaports.



A-1

INTRODUCTION

The United States' ability to maintain its national security has been predicated on its power projection capability to deploy and sustain the requisite force structure to an overseas theater. The importance of strategic sealift was emphasized as a pivotal element of military power by the Military Sealift Command (MSC) as early as August 1982. Admiral Thomas B. Haywood indicated that "more than 90 percent of all wartime cargo will go by sea, regardless of where the conflict is," and that "without adequate and reliable sealift, none of our military plans are executable."[1] Five years later, Vice Admiral Walter T. Piotti increased the estimate by 5 percent and thus made it absolutely clear that, in spite of the increase of airlift capability during this period of time, sealift remains the single most significant factor in the United States' ability to properly use the element of military power in force deployment and sustainment.[2] If we conclude that sealift is an absolute imperative to our military strength, what has been our position on its maintenance and status? The Commission on Merchant Marine and Defense (established in 1984, to study strategic sealift; adequacy of the merchant marine; and to make recommendations for problem resolution), stated in their first report that the U.S. possessed insufficient vessel assets "to execute a major deployment in a contingency operation in a single distant theater such as Southwest Asia," and that without immediate action, "the situation will worsen substantially by the year 2000."[3] The situation has not improved

since that first report. In fact, sealift actually deteriorated for the "single-theater scenario and dramatically for a global war."[4] Even during a relatively small crisis action deployment of U.S Forces similar to the recent Panama invasion, "the shortfalls in the existing capabilities, particularly in terms of offloading facilities" demonstrated again our vulnerability in executing war or contingency action plans.5

Assuming that our best case assumptions, which have influenced our planning factors, occur as projected for strategic sealift, the variables of fixed port availability, weather, discharge capability, and enemy action would make the execution of the operation a nightmare. In his Annual Report to Congress in 1983, Secretary of Defense Caspar Weinberger stated that without an adequate logistic network "we could be forced to concentrate in less defensible locations near major airfields and seaports, rather than in key defensive positions of our choosing."[6] Because of our dependency on containerization for transportation resupply, and the use of limited overseas fixed container terminals (which are susceptible to enemy action, subversion, sabotage, or port denials) the question remains: How do we resolve these serious power projection problems, which prevent our rapid reinforcement of contingency forces? Attaining and maintaining an adequate CONUS and OCONUS force structure which can not be fully deployed serves little purpose, if we can not utilize this capability within a timely manner. The proper type and amount of vessel assets, coupled with the

flexibility of vessel discharge systems through the entire spectrum of strategic mobility, must be developed to utilize both fixed and austere port assets.

Logistics-Over-The-Shore (LOTS) represents flexibility which can provide the National Command Authority (NCA) with options for armed forces deployment into theaters and locations of our choosing, vice areas that are dictated by either fixed ports or by the type and amount of vessels in the inventory. The Department of Defense (DOD) must develop a total container handling capability that can provide for the proper support and deployment of U.S. forces to theaters of operations in support of low-intensity conflict (LIC) and mid-intensity conflicts (MIC), and specifically to locations that are difficult to predict and defend. The United States may continue to have significant problems defending national security interests brought on by insurgents, terrorists, and third country dictators.

BACKGROUND

Military history has proven unequivocally that there is a requirement to land forces on unprepared beaches and to sustain those forces during combat operations. As a result of the realities of a rapidly shrinking inventory of U.S. controlled vessel assets, and the rapid loss of break-bulk shipping in favor of nonself-sustaining container vessels, the services have been forced to deal with this critical sustainment problem.

The President's Commission on the Merchant Marine and Defense recently reported that "the current inventory of ships suitable for strategic sealift is inadequate to meet the requirements of even a single-theater conflict," and the situation will continue to deteriorate to a point where the U.S. will be unable to support worldwide national security interests because of shrinking sealift assets.[7] From a seagoing vessel inventory of 5,000 vessels after World War II, the U.S. Merchant Marine has been reduced to the present level of 375 U.S. flagships and about "120 U.S.-owned ships sailing under foreign flags."[8] Even with today's sealift assets, the U.S. lacks approximately 155 ocean vessels to successfully deploy and sustain its forces in a crisis situation.[9] The Department of Defense accepted this challenge by establishing the Joint Logistics-Over-The-Shore (JLOTS) project. This project was initiated to "reassess the capabilities of the services to conduct LOTS operations," to take advantage of the tremendous increase of tonnages afforded by the container delivery method, and to evaluate

each Service's "LOTS capabilities...(in terms of quantitative throughput) and soundness of its organizational structure, command and control, doctrine and procedures."[10]

The U.S. Army's first container handling unit was configured approximately 1 year prior to the JLOTS I Test, which was held from 8 July to 21 August 1977. Commercially developed equipment was procured, modified, and configured to operate in a beach environment. Although this composite of container handling equipment gave the Army terminal service company the ability to handle containers in a fixed port setting, it was without a doubt the innovative development of procedures and concepts on the part of the U.S. Army Transportation Corps which enabled a provisional Logistic Task Force (LTF) to use the equipment with some success in an austere beach environment. During the JLOTS I Test, the U.S. Navy and Marine Corps also participated with their respective container handling equipment, including an elevated causeway (ELCAS), and a floating causeway system, lightweight amphibious container handlers (LACH), and a 300-ton crane mounted on a container vessel.

Other than the normal parochial, service-related problems which can be expected when a new concept is being tested, the test objectives for the operation were accomplished with no significant problems. Among the numerous conclusions and recommendations articulated in the Executive Summary, JLOTS Test and Evaluation Program, Technical Report 1412, the most significant finding, in

spite of several strategic deployment shortfalls, was that the U.S. Army had demonstrated a marginal capability to employ and sustain container logistic resupply through austere ports or beaches. In spite of tne fact that this capability was demonstrated, there were significant problems with deploying the unique Army container handling equipment (both shipside and shoreside systems) based on the fact that only three U.S. flag vessels were capable of deploying the LTF.

Although container throughput was hampered by high sea state conditions, the Lighter, Air-Cushioned Vehicle (LACV-30) proved that it was a successful and rapid means of transporting 20 foot containers across the beach, regardless of beach gradients.[11] The military services had collectively provided for a composite capability which, on several occasions during the test, resulted in the discharge of over 265 containers during a 24-hour period. This amounted to a short-ton (S/T) discharge of between 3,500 S/T and 4,639 S/T daily, compared to the 1,000 S/T that a break-bulk terminal service company could discharge.[12]

In 1984, the Joint Logistics-Over-The-Shore (JLOTS) II Test was conducted during the September and October timeframe to once again "assess the Service's current capability in Assault Follow-on Echelon (AFOE) and Logistics Over-The-Shore (LOTS) operations."[13] The U.S. Navy/USMC (AFOE) operations included several new systems such as the Auxiliary Crane Ship (T-ACS), which is self-deployable and has organic cranes aboard. This vessel (T-ACS) can carry

assorted cargoes such as containers, break-bulk cargo, oversized cargo, tracked vehicles, and lighters weighing up to 95 S/T including landing craft and floating causeways.[14] The T-ACS were designed to work in most sea state conditions and represented the U.S. Navy's effort to employ lessons learned from the JLOTS I Test. The ELCAS was once again employed as a beach throughput system along with rough terrain container handlers (RTCH), and lightweight amphibious container handlers (LACH). The floating causeway and the landing craft, utility (LCU) were also used by the AFOE as a means of transporting the containers to the beach, or to the ELCAS. During the U.S. Navy/USMC operations the best day of productivity was 219 containers during a 20-hour period.[15]

The U.S. Army LOTS operation, as a separate event, utilized the T-ACS vessel for discharging the container ship and employed an assortment of lighterage. LCU's 1600 and 1400 class, landing craft, mechanized (LCM-8), LACV-30, and amphibious resupply cargo (LARC-LX) assets were employed (See Appendix B) to transport containers to the beach. Beach clearance was accomplished by the A and B-Delong Pier system, the ELCAS system, and the amphibian discharge site using a mobile 140-ton crane to lift the containers off the lighterage. Beach transfer operations were accomplished by the RTCH by loading the containers on to compatible chassis for the onward movement to the Marshalling Yard. During the U.S. Army operation the best day of productivity was 304 containers during a 20-hour period.[16] The overall conclusions of JLOTS II indicated that once again the

military services could not meet the daily 300 container throughput requirement because of numerous procedural and equipment changes, delays and segmented operations which never fully tasked the respective systems to maximize their efforts.[17] The Army's Delong system once again displayed its strategic deployment constraint, and the Navy's ELCA system had problems in timely assembly. JLOTS II did provide the services with additional data and reflections on where the bottlenecks were, and the opportunity to employ systems in relation to the uncertainties of an austere beach environment. Unfortunately, the test results did not demonstrate a capability that would support our forces in a real world conflict. In spite of the millions of dollars invested to improve the service's ability to attain and sustain a container LOTS capability, JLOTS II, for all intents and purposes, only revalidated that DOD can not insure that U.S. strategic vital interests can be supported when fixed ports are denied during crisis action situations.

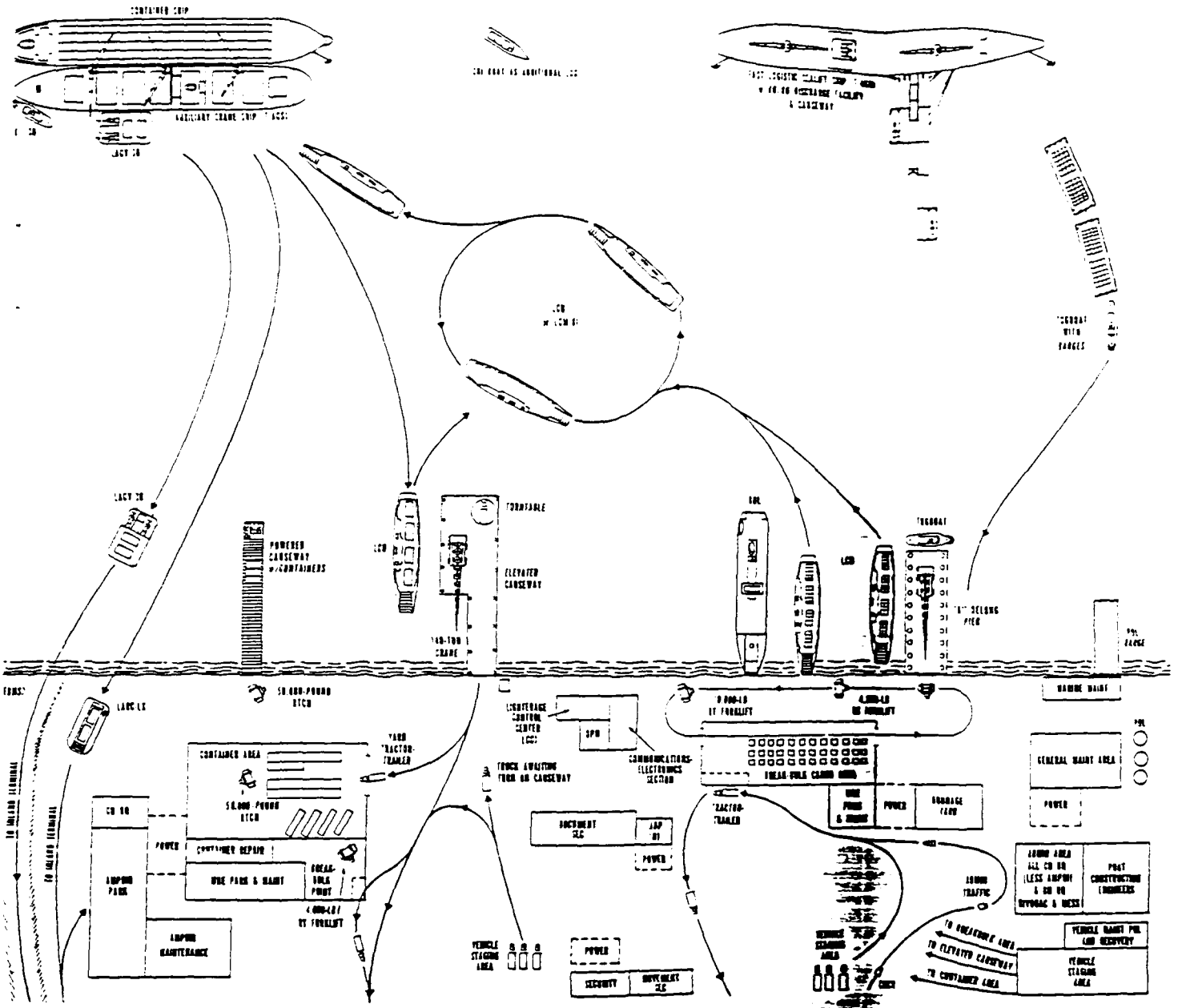


Figure 10-1. Logistics over-the-shore (LOTS) operation.

10-3

PRINCIPLES AND TENETS

As the threat to NATO diminishes in central Europe, the probabilities for low and mid-level intensity conflicts may increase worldwide as the superpowers adjust and alter their competitive rules of engagement. Although force structures of both the Soviet Union and the United States may be reduced and excess material destroyed, geopolitical realities may require the United States to focus on forgotten areas which represent significant and vital interests to national security.

Logistics-Over-The-Shore, as defined by the DOD Sealift Study, will play an important role in the strategic deployment of a "large, balanced force into austere environments like those found in Western Pacific, Southwest Asia, or Central and South America.[18] The U.S. Army LOTS program estimates expenditures of $690 million during fiscal years 1988-1992 in order to sustain a minimum daily requirement of 21,000 short tons.[19] Although significant effort and expense is programmed to support a capable and sustaining LOTS capability, JLOTS I and II unfortunately demonstrated that collectively the services do not have an equipment "package" which can insure continuous container discharge to support a notional force structure of about 112,000 personnel.[20] Even with the recent procurement of six to twelve scheduled Auxiliary Crane Ships (T-ACS), the statistical results of JLOTS II indicate the vessel has problems discharging containers in sea state three conditions (3.5' to 5' wave height with a wind speed of 18 to 26 knots). Incident to

the fact that the same problem was encountered by the lighterage during both JLOTS tests, at best, the U.S. system is marginal and may or may not properly support a deployed force. The T-ACS will solve the strategic deployment problem of the container vessel discharge system, but resolution to the sea-state pendulation of the onboard cranes must be corrected in order to sustain the 300 container discharge rate per 20 hour work day. The second major problem for the U.S. Army remains the deployment constraints of the A and B Delong piers (i.e., only 3 U.S. flag vessels can transport these large piers) for the beach discharge system when lighters are used to transport containers to the beach. The U.S. Navy ELCAS elevated causeway, which is deployable aboard T-ACS vessels, represents the only assured means of beach clearance for containerized cargo transported via landing craft. The U.S. Marine Corps' LACH can discharge landing craft or lighterage on the beach, but the equipment can only handle 20 foot containers and has a very slow discharge rate of 8.8 minutes average per container. The U.S. Army's LACV-30, which proved its utility in both JLOTS I and II, has the capability to transport 300 containers per day, but can only handle 20 foot containers, i.e., either one at 22.5 S/T or two at 14 S/T each.

Although the services are working together under a joint memorandum of agreement to procure "interoperable offload and discharge systems to ensure system compatibility," the results have not been optimal (a container LOTS capability which will insure high tonnages, and the ability to sustain container throughput in rough seas).[21]

SERVICE ISSUES

The Memorandum of Agreement (MOA) between the U.S. Army and the U.S. Navy (established and revised three times since 1982) is presently pending its fourth revision.[22] The realities of weather and sea-state conditions are the two most difficult challenges faced by the services in resolving the LOTS problem. JLOTS I and II, coupled with several other exercises have indicated that, in spite of several corrective hardware design changes the most optimal capability "continues to be limited to winds below 30 knots, and to sea state 3 and below."[23] Procedural issues have been for the most part resolved. The U.S. Navy with the Marine Corps has initial responsibility for the container movement by lighterage from T-ACS to the shore until the U.S. Army assumes the responsibility for LOTS. The Joint Logistics Over the Shore, Coordinating Draft, NWP 81, dated January 1988 has further refined the services' development of doctrine and procedures related to the continuing shortfalls of U.S. LOTS capability.[24]

As the services attempt to resolve procedural and doctrinal issues in an environment of constrained resources, the present LOTS capabilities need to be evaluated in greater detail. While several tests and exercises have indicated a marginal LOTS capability, the reality continues to be that the Services' are hampered by sea state and wind related problems. Thus, the ability to sustain container throughput volume necessary to properly support a large deployed force structure has not yet been achieved.

If fixed ports were denied or rendered otherwise useless in the Latin American, Middle East and Southwest Asian regions where the MIC probability of conflict may increase, the services may not be able to support the theater CINC. The AFOE and LOTS capability, presently on-hand, does not provide for a high probability of successful logistics resupply. We may become hostage to the whims of nature and relegated to a fair weather logistics force.

On the lower end of the spectrum of conflict, LIC represents a greater probability for the involvement of U.S. Armed Forces. Latin America, the Middle East, Asia and the Pacific Basin, and the Sub-Sahara have been identified by the Department of the Army (DA) as regions where the probability of LIC is high.[25] Considering the numerous plausible scenarios that could develop in these areas, the U.S. Army has been working on developing a force structure which would be, according to the Army's Chief of Staff, "capable of projecting prompt and sustained military power anywhere in the world."[26] Our collective AFOE/LOTS shortfalls become, from a strategic point of view, significant issues that must be resolved technically and in spite of the services' "overlapping, probably duplicating and perhaps conflicting roles."[27] Answers must be founded on mission success and not on which service force is employed to do the job, for the reality is that neither of the two strategic mobility systems Army-Air Force or Navy-Marine Corps can effectively support their own forces when the tactical situation dictates a LOTS environment. As the U.S. military strategy

transitions from a forward defense in NATO, the rapid reinforcement of any theater of conflict becomes more dependent on the number and type of available vessels, the surety of ports of discharge (POD), and the availability of ship/shore discharge systems.

Despite the efforts of several Administrations, including the seven billion dollar investment for the procurement of eight Fast Sealift Ships (FSS), the U.S. may remain impotent in deploying and sustaining our "forces overseas in even a so-called 'brushfire' war like Vietnam, much less a major NATO/Warsaw Pact conflict."[28] Although the probability of high intensity conflict (HIC) has significantly been reduced based on the recent events in Eastern Europe, the implications for LIC/MIC can not be understated. As the U.S. Army builds and lightens its force structure to build a more deployable and lethal capability in support of numerous scenarios including: security assistance; insurgency and counterinsurgency; peacetime contingency operations; peacekeeping operations; anti-terrorism; and counter-narcotics support, the requirement for sealift delivery systems with an over-the-horizon capability remains an absolute prerequisite for success. When three of the basic tenets to our stated military strategy are flexible response, force projection, and maritime superiority, declaratory rhetoric may not seem credible to our potential adversaries when the fact is that "today, our ships carry only 4 percent of the total of U.S. commerce."[29] The bottom line indicates that we have insufficient sealift assets, and, of those that we do have, a significant number are either fixed port dependent, or possess limited military application.

A CONSTRUCT FOR RESOLUTION

Strategic mobility as it relates to the LOTS environment must be addressed as a total distribution issue and not as an isolated individual service or sub-system related problem. The results of JLOTS I and II have proven that, although incremental improvements have been made, the total capability is based on a "band-aid" consortium of fixes and a system of systems which in the whole can not provide any surety of mission success. Today, there are too many weak links in the distribution system that need resolution. We do not have enough U.S. flag vessels; of the ones that we do have immediately available in the MSC controlled fleet or the Ready Reserve Force (RRF), none are specifically designed to support a LOTS scenario; and as a result, the services have expended significant time, money, and effort in attempting to piecemeal fixes that, in the final analysis, will not work. Since collectively the services have not demonstrated a sustainable peacetime LOTS capability, it is difficult to imagine that a commander or a planner would advocate the primary use of the AFOE or LOTS system to support the deployment and sustainment of forces across a beach type environment.

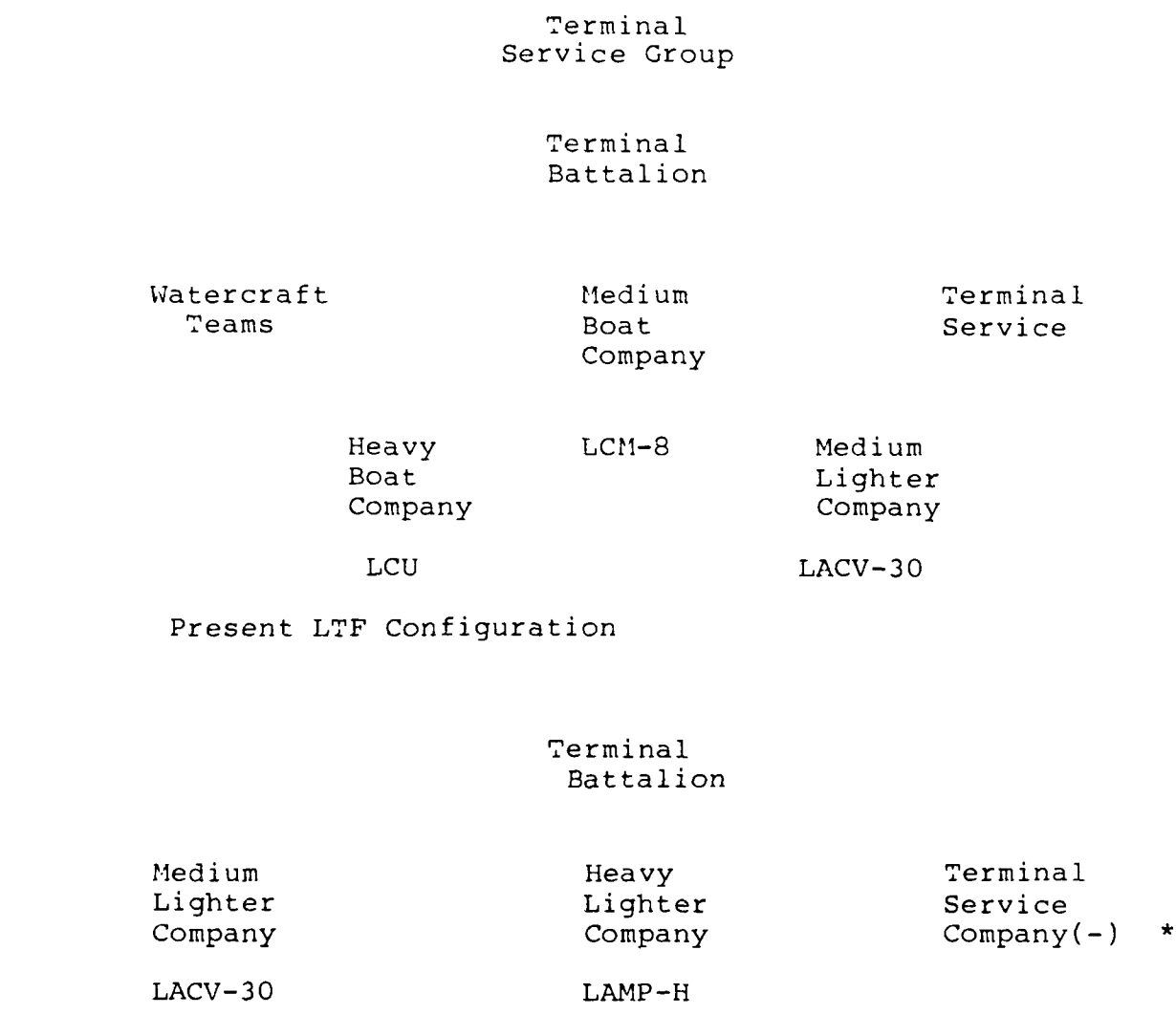
The pivotal key to this logistic challenge can only be resolved by a specially designed, fast, self-sustaining, multi-purpose military sealift vessel, one that could deploy armed forces with all organic equipment; containerized cargoes for sustainment; air

cushioned or amphibian lighterage for cargo transport to the beach; and beach discharge systems for container throughput. As the U.S. military strategy evolves from forward deployment to forward presence, over-the-horizon fast vessels will be necessary to insure that we will have the requisite capability for rapid reinforcement or deployment to prevent or terminate small wars. The changing reality of the world, budgetary constraints, and probable force reductions necessitate a radical new paradigm for the employment of military power. Rapid deployment, sustainment, and reinforcement will truly validate our stated military policy of flexible response, force projection, and maritime superiority, and will insure that the NCA will be offered viable options in utilizing our armed forces prudently and proactively in support of national security interests. These proposed vessels would become the nucleus of a Logistics Task Force which could assure the theater CINC of an assured deployment/sustainment capability, irrespective of beach gradiants, sea-state conditions, or fixed port denials. The CINC would truly have for the first time the ability to employ his forces in areas of his choosing, based solely on operational and tactical considerations instead of logistical constraints.

Since the seriousness of our strategic sealift shortfalls have been recognized by both DOD and the Congress the first priority must and should be the procurement of specially designed military transport vessels. The 1990 Defense Budget, with the support of both the House and Senate, has earmarked one billion dollars for six

fast sealift vessels to transport equipment and supplies to U.S. Armed Forces overseas.[30] The question now becomes: "how should these vessels be designed, and what should their capabilities contribute to the strategic mobility posture of the United States?" By designing and building five of these vessels and task organizing a Logistics Task Force configured as the first echelon of LOTS within an undeveloped austere beach environment, the CINC would be assured of a logistic structure that could be utilized anywhere in the world. Since the LOTS package would be self-sustaining, the manpower and equipment signature could be significantly reduced. Composite lighterage and terminal service units would reduce personnel assets while dramatically increasing total tonnage throughput.

An example of how the LTF could be downsized would be represented as follows:



Present LTF Configuration

Proposed LTF Configuration

*Only the shore platoons would be required for beach clearance duties since the vessel would be self-sustaining for the discharge of containers onto LACV-30, LCAC, or LAMP-H air-cushioned vehicles.

Beach container discharge systems like the ELCAS, cantilevered elevated causeways, A and B Delong piers, and the T-ACS vessels which present themselves as a very large logistics target would only be utilized once the entire area was secure, and as a second echelon of LOTS capability, weather permitting. By employing an amphibious or expeditionary assault force coupled with an over the horizon AFOE/LOTS package tailored around this new multi-purpose vessel, the U.S. would have a creditable force which could be deployed anywhere in support of LIC and MIC. Additionally, this logistics package may resolve the enormous costs associated with prepositioning equipment overseas by negating the expensive requirement of procuring two sets of equipment, "one for training; another set for fighting."[31]

RECOMMENDATIONS AND CONCLUSIONS

Lieutenant General Jimmy D. Ross stated in October 1989 that "The 1990's will also demand a reassessment of our strategic mobility requirements and capabilities. The ability to deploy our forces and to sustain them over long supply lines will become even more important as nuclear and conventional force reductions continue."[32] This reassessment has already begun in earnest as both congressional and administration leadership grapple with the pervasive problem of how to restructure the U.S. Armed Forces. Senator Sam Nunn was quoted as saying that "The Army should get lighter, more transportable."[33] Defense analysts predict, "the test for which ones (forces) are worth keeping on active duty will be who can be transported easiest and fight well once they land."[34] With statements such as these coming from Washington, there can be no doubt, barring a reversal of the radical changes sweeping Europe, that the U.S. Armed Force will be downsized considerably and a major concern will be strategic mobility implications.

Although it can be argued that a smaller force structure may require less sealift, the real issue of overall strategic lift shortfalls will remain until it is finally resolved. The U.S. needs to have a demonstrated capability to logistically support its forces through austere beaches when fixed ports are denied or otherwise made unavailable. The DOD has taken the first steps of initiating

the development of fast surface effect ships with the ability of transporting 5,000 short tons of cargo at an average speed of 55 knots.[35] This initiative must continue with the assurance that these vessels must be self-sustaining for either AFOE or LOTS operations. The U.S. Army is pursuing the development of a Lighter, Amphibian, Heavy lift (LAMP-H). These 28 air-cushioned vehicles will be able to transport assorted cargoes including both 20 and 40 foot containers up to 100 or 140 short tons at a speed of 10 to 20 knots, and "will be able to successfully operate over 85 to 90 percent of the beaches in the world."[36] The LAMP-H initiative must be continued with a design addendum to insure that the new lighters could be deployed by multi-purpose fast sealift vessels.

By authorizing and building a fleet of 20 fast sealift vessels capable of either fixed port or LOTS operability, the U.S. would be able to support a "go it alone" scenario in support of low and mid-intensity conflict.[37] Although the pending proposal to give these vessels the ability of traveling at 55 knots needs to be carefully considered, because speed may not be the sole governing consideration. Improvements in loading and offloading capability may be more significant to the theater CINC than any gains made from dramatic increases in transit speed.[38] The basic tenet must be to deliver great amounts of cargo overseas with a high degree of probability of discharge in a multitude of environments, and with a speed range of 30 to 35 knots, thus not compromising fuel consumption for cargo lift capacity.[39]

By prepositioning, forward-deploying, and crewing these vessels, they could be immediately available to dramatically influence events in a theater conflict. By creating a strategic forward-deployed multi-capable logistics distribution system, the U.S. can bring to bear the total lethality of even a smaller force structure.

Since Congress, by a compromise solution, passed the 1990 Defense Budget authorizing $600 million for six fast sealift ships, the ultimate design consideration must be the creation of a strategic mobility asset which will become the nucleus of a total distribution system - one which will provide the war fighting CINC and the NCA with a capacity for flexible response and mission accomplishment. Otherwise, attaining and maintaining a CONUS-based force structure second to none, which can not be rapidly deployed or properly sustained, becomes pointless and an exercise in futility. If we need to rapidly reinforce a smaller U.S. presence in NATO, or introduce forces into an underdeveloped theater in support of LIC and MIC, we must be able to accomplish the mission in a robust manner and with a sufficient fleet of fast, special purpose, military transport vessels that are capable of both fixed port and LOTS discharge operations. U.S. Armed Forces merit no less than a reliable system of deployment and sustainment.

REFLECTIONS

The creation of a fast, mobile, and logistically supportable task force capable of influencing LIC and MIC outcomes can only be achieved by the U.S. possessing a fully competent LOTS/AFOE system. A system which is self-sustaining in the critical LOTS vessel discharge area, based on a special multi-purpose military transport vessel. A vessel which can organically carry all the requisite delivery systems and be able to deliver great amounts of cargo across austere beach environments to specific geographical areas of our choosing. Once such a vessel is designed and created, the U.S. can build two LTFs, properly equipped with air-cushioned lighterage centered around five to six of these vessels. Initially, these vessels must be built so as to be strategically stationed on the east and west coast areas for peacetime contingency requirements. The Fast Sealift Ships (FSS) presently in the MSC inventory could then be retired into the Ready Reserve Fleet, only to be activated when specifically needed as a second echelon of strategic mobility and only when fixed ports have been secured for combat resupply. The U.S. would thus avoid expensive peacetime maintenance costs associated in retaining two types of strategic sealift vessels on active duty status.

For those who would argue that the recent Panama intervention proves that the U.S. can properly support a LIC, I must remind them that Panama is an aberration because we already had a significant

presence incountry and the resupply that normally would be provided by sealift was already prepositioned prior to the intervention. In any other contingency operations, the U.S. must, by necessity, be able to rapidly deploy and sustain her armed forces irrespective of the availability of fixed ports. We can continue to modify our strategic mobility logistic sub-systems and possibly correct our shortcomings or we can attack the crux of the challenge by fielding a new class of sealift vessels which will provide for a complete distribution system. We can continue to squander valuable resources on systems that may not work, or we can correct the problem. We can jointly succeed or fail separately, the choice is ours.

ENDNOTES

1. Vice Admiral Kent J. Carroll, "Sealift's Role in Strategic Mobility," Defense Transportation Journal. Vol. 38, No. 4, August 1982, p. 25.

2. Glenn W. Goodman, Jr., and Scott C. Truver, "An Exclusive AFJ Interview with Vice Admiral Walter T. Piotti, Jr., USN, Armed Forces Journal International, July 1987, p. 48.

3. Allan W. Cameron, "Facing Up to America's Strategic Sealift Shortfall," Armed Forces Journal International, July 1989, p. 71.

4. Ibid.

5. Ibid.

6. Caspar W. Weinberger, Annual Report to the Congress Fiscal Year 1983, p. III 106.

7. "The Power Projection Shortfall," Air Force Magazine. 1988, p. 297.

8. Peter Koch, "Congress Moves to Remedy Need for Fast Sealift," Army Times, 6 November 1989, p. 29.

9. Ibid.

10. H. G. Casey, A. Green, and W. Sutherland, Joint Logistics-Over-The-Shore (LOTS) Test Report--Volume I--Conduct of Test, CRI Technical Report 1412, January 1979, p. 1-3.

11. Ibid., p. 3-6.

12. Colonel Dan J. Beakey, Logistics Over The Shore, Do We Need It?, National Security Affairs Monograph Series 82-6, 1982, p. 11.

13. JLOTS II Test Directorate, Joint Logistics Over-The-Shore II JLOTS II Throughput Test, August 1985, p. xxii.

14. Ibid., p. 2-11.

15. Ibid., p. xxv.

16. Ibid., p. xxxiii.

17. Ibid., p. xxxxi.

18. Prepared by the Joint Staff, United States Military Posture FY 1989, p. 77.

19. Ibid., p. 77.

20. Colonel Dan J. Beakey, Logistics Over The Shore, Do We Need It, National Security Affairs Monograph Series 82-6, 1982, p. 34.

21. Prepared by the Joint Staff, United States Military Posture FY 1989, p. 77.

22. Department of Transportation, Transportation System Center, Cambridge, Mass., October, p. 104.

23. Ibid., p. 105.

24. Ibid., p. 107.

25. LTG Gordon R. Sullivan, USA, DCSOPS Lecture to AWC, 3 Nov 1989.

26. Edwin H. Simmons, "Go Marines! Beat Army," The Washington Post, 8 October 1989, p. C1.

27. Ibid.

28. L. Edgar Prina, "An 'Action Plan' for the Merchant Marine," SEAPOWER, May 1989, pp. 44-48.

29. "NATO commander presses for U.S. Sealift Policy," Army Times, 4 September 1989, p. 28.

30. Peter Koch, "Congress Moves to Remedy Need for Fast Sealift," Army Times, 6 November 1989, p. 29.

31. Ibid., p. 33.

32. Lt. Gen. Jimmy D. Ross, "Maintaining High-Quality Goal in Facing Challenges of 1990s," Army Times, October 1989, p. 5.

33. George C. Wilson, "U.S. Begins Revamping the Military," The Washington Post, 26 November 1989, p. A12.

34. Ibid.

35. Lt. Gen. Jimmy D. Ross, p. 5.

36. U.S. Army Transportation School, TRANSPORTATION '91, FT. Eustis, Virginia, June 1989, p. 5-3.

37. Allan W. Cameron, p. 72.

38. Ibid., p. 73.

39. Ibid.

40. Clinton H. Whitehurst, Jr., The U.S. Merchant Marine, 1983, p. 208.

APPENDIX A

Technical Considerations

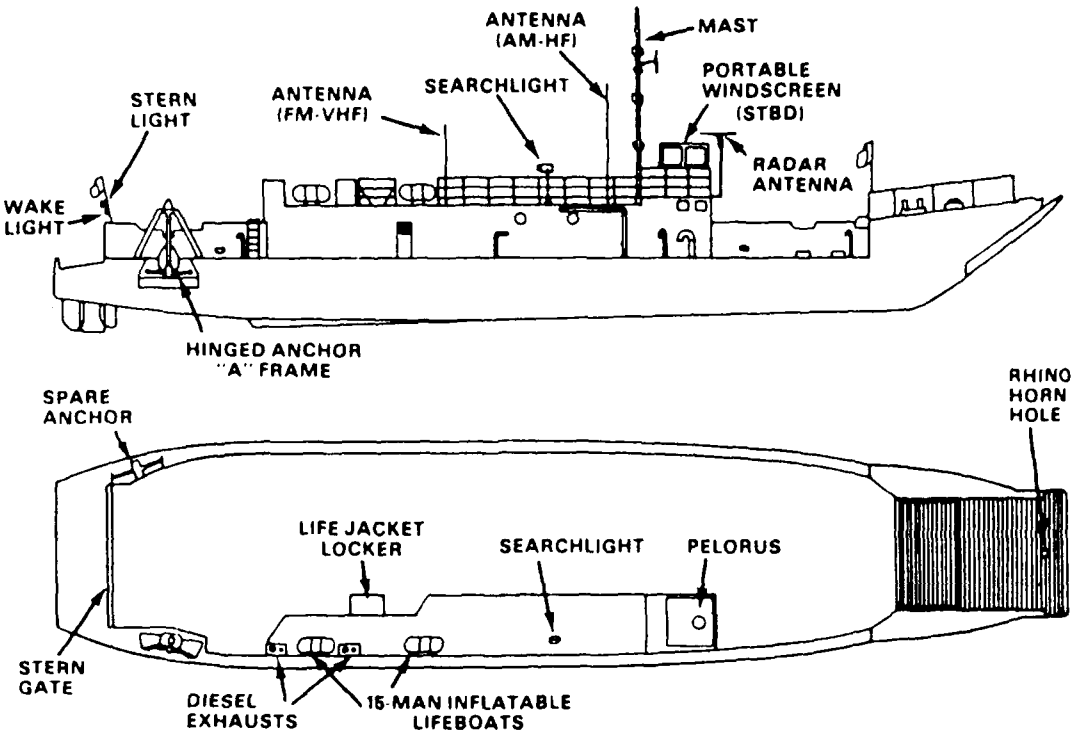
From a AFOE/LOTS perspective, the first requirement for these vessels must be the ability to serve the specific needs of military deployments through either fixed ports or austere beach environments. By prescribing a multi-capable role specifically designed for military use, these vessels should have port, starboard, and stern ramps for rapid fixed port discharge, but also be capable of self-sustaining container and vehicle discharge in a LOTS operation. This dual requirement, although difficult, can be achieved by careful design and through the application of technological innovation. The Lykes Brothers Steamship Company designed a Seabee type vessel which could serve as an example for design consideration.[40] The Seabee barge vessel has the unique asset of having internal bay areas running the internal length of the vessel, with a stern elevator capable of lowering large barges into the ocean. By designing our new military transport vessels on this premise, but with additional modifications, a multipurpose sealift asset could be developed to best serve the theater CINC. A monohaul vessel with three internal bay areas approximately 800 feet long could be used for the loading of a multitude of military equipment. Roll-on/off ramps located on the stern and sides would facilitate ease of loading for fixed port operations. For LOTS

operations these internal cargo bay areas would be capable of stowing tracked vehicles, containers, amphibian/air-cushioned craft, and beach discharge systems. The stern ramp would be lowered into the water in order to discharge its complement of LACV-30, LCAC, and heavy lift amphibian craft. Once this was accomplished the wheeled and tracked vehicles would be driven to the stern ramp for self-loading onto the air-cushioned or amphibian craft. Since this type of lighterage could traverse the surf on the beach, the loaded vehicles could reach the beach and be available for immediate employment.

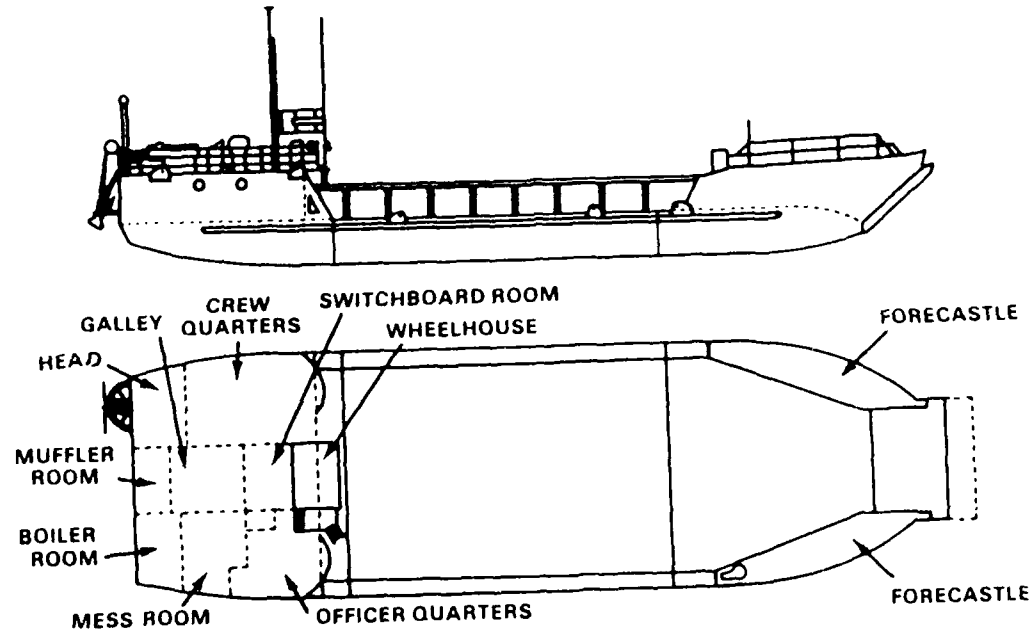
Once all the roll-off cargo was discharged, the vessel stern ramp would be lifted flush with the main deck and be configured as a container discharge crane. Containers that were fixed port loaded aboard the vessel through large hatch covers would be moved to the stern area by means of internal ceiling rail mounted 35 ton container hoists which would traverse to the stern ramp, now serving as a boom for container discharge onto the LACV-30, LCAC, and amphibian lighterage. As each bay was cleared of containers, the stern ramp boom would be lowered or raised as appropriate to work the next level. Just like the Seabee vessel, this new military transport would have a protected stern deck well area not only serving as structural support for the stern ramp/boom, but would negate the effects of sea-state conditions on the offloading operations of the lighterage. This proposed self-sustaining vessel would require a minimum of crew and would serve primarily as an

assured capability for either vehicle or container discharge in both fixed port and in an austere beach environment. Since this class of vessel will be specifically designed and maintained for rapid military deployment and sustainment, the aforementioned characteristics would best serve our foreseeable strategic mobility needs.

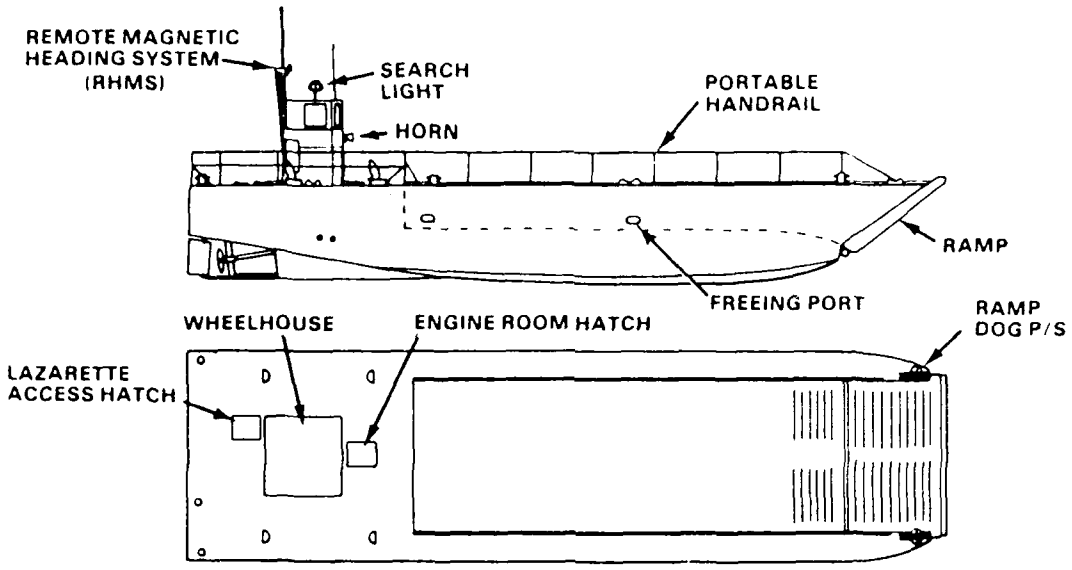
APPENDIX B LIGHTERAGE CHARACTERISTICS



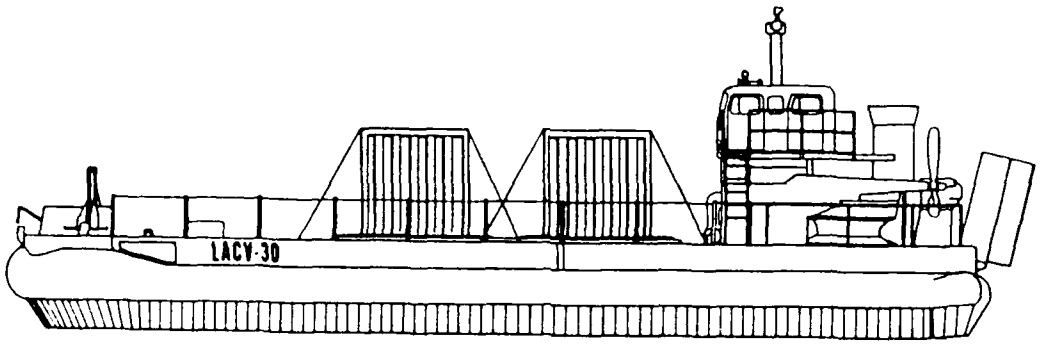
Landing craft, utility (LCU), 1600 class.



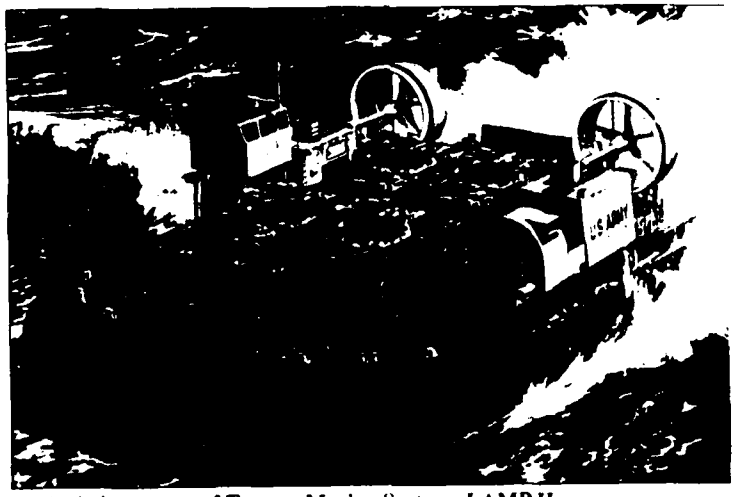
Landing craft, utility (LCU), 1466 class.



Landing craft, mechanized (LCM-8).



Lighter air-cushion vehicle, 30-ton (LAVC-30).



Artist's concept of Textron Marine Systems LAMP-H